Data from the Consumer-Level Neuro Devices: How should IS Approach it?

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One of the founding blocks of the today's society is the proliferation of information and systems which are used to handle the growing amount of digital data and information. Thus it is no wonder that some forms of information systems are present in most facets of everyday lives: social networks, smart consumer devices, supply chains and e-banking just to name a few. Resultantly, Information System as a discipline has become very diverse in studying these phenomena. Initially, we limited ourselves to mostly quantitative statistical instruments to understand data, which was mostly self-reported (e.g. surveys). As our discipline grew, we began to embrace qualitative data sources as well, and self-reported data started to amalgamate with observations. In newer research, Information Systems as a discipline ventured beyond self reported and observed data into the domains of bio-data. A set of studies borrowed proven instruments and techniques from the other disciplines, mostly from medicine or neuroscience. For example, Neuro IS used brain imaging tools (e.g. EEG, fMRI or PET scanners), eye trackers, saliva analysis and skin conductivity tests to complement existing or create new knowledge about multiple IS-related phenomena. Those and instruments of a similar caliber are starting to be accepted as a valuable contribution to the IS body of knowledge.

However, most Neuro IS tools can be demanding to implement properly, which limits smaller institutions, researchers with tight budgets, and programs that are not particularly multidisciplinary. For example, a single fMRI study requires massive facilities, teams of highly trained experts from different disciplines, strict procedures, and significant financial resources. With all that in mind, it is easy to conclude that vast amounts of IS related phenomena stay out of the grasp of the majority of our field which further limits Neuro IS to fully contribute to the IS body of knowledge. Even if the research unit is equipped with all material prerequisites to conduct Neuro IS studies, rigorous experimental procedures may limit the breadth of the phenomena that can be analyzed.

Fortunately, there might be a way which can allow aspiring IS scholars to triangulate qualitative and quantitative data with bio and neuro data in a much more efficient and resource minimized manner. That way is paved with consumer level neuro devices (e.g. Emotiv EPOC or Neurosky Mindwave) which are easy to install and use, and which can provide a wealth of data to supplement the colloquial data sources and to extend new research frontiers. I would like to use this TREO talk to open a discussion about implementing consumer level neural devices into the IS research agenda and to explore the venues of triangulating bio/neuro data with qualitative and quantitative data. More specifically, I would like to present a work in progress which is set to explore one aspect of technostress (namely, information overload) through quantitative and qualitative self-reported data and through the usage of two different consumer level neuro devices.